

THE PROTECTION OF ISOLATED NEUTRALS OF 100 KV
THREE PHASE SYSTEMS AGAINST SYSTEM OVERVOLTAGE
BY V. KALOUSEK, S. SYČÍK AND V. VÝŠEK
Eletrotech. Českoslov., Vol. 15, No. 7, 149-8 (1938). In Czech.
With switching equipment and instruments for overvoltage protection
and measurement are described. Overvoltage records and distinctions

VALENTA, Vaclav; VLACHOVSKY, Karel; VYSKOCIL, Vaclav; ZBYTOVSKY,
Adolf; KOTT, Josef; KOVARIK, Karel; MAZUR, Arne; COUFAL, Jaromir

Some remarks on the problem of nuclear reactor shielding.
Jaderna energie 9 no.7:233 Jl '63.

1. Zavody V.I. Lenina, Plzen.

VYSKOCIL, V.

Determination of the shape of a boundary between two media from gravitational data for density varying with depth. In English.

P. 33, (Geofysikalni Sbornik) Ceased publication. No. 36/60, 1956 (Published 1957)
Praha, Czechoslovakia

SO: Monthly Index of East European Acquisitions (EEAI) Vol. 6, No. 11 November 1957

VYSKOCIL, V.

VYSKOCIL, V. Contribution to the study of present tectonic movements in Slovakia. p. 224.

Vol. 31, No. 5, 1956.

VESTNIK.

GEOGRAPHY & GEOLOGY

Praha, Czechoslovakia

So: East European Archives, Vol. 6, No. 3, March 1957

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9

VYSKOCLIOVA, K.

"Hypochlorous Bleaching of Wood Pulp." p. 74, Praha, Vol. 9, no. 3, Mar. 1954.

50: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9"

VYSKOCILOVA, K.

"Peroxide method of wood-pulp bleaching." p. 214. (Papir A Celulosa. Vol. 8, no. 10, Dec. 1953. Praha.)

SO: Monthly List of East European Accessions, Vol. 3, no. 6, Library of Congress, June 1954.
Uncl.

TICHY, J.; VYSKOCILOVA, L.

Contribution to differential diagnosis of encephalomalacia
and encephalorrhagia through the determination of the cho-
lesterol content of the cerebrospinal fluid. Cas. lek. Cesk.
104 no.42:1161-1164 22 0 '65.

1. Neurologicka klinika fakulty vseobecneho lekarstvi Karlovy
University v Praze (prednosta akademik K. Henner) a Oddeleni
pro cenvi nemoci mozku, Thomayerova nemocnice v Praze-Krci
(vedouci doc. dr. J. Budinova-Smela).

VYSKOCILLOVA, V.

CZECHOSLOVAKIA

J. SOLICH, J. KOCUSKOVA, M. SAVZOVÁ and V. VYSKOCILLOVA, Chair of Practical Pharmacy - Faculty Pharmacy (Fakulta farmaceutického provozu) Fakultní lekárna) Brno, and Chair of Biochemistry, Microbiology and Hygiene (Katedra biokémie, mikrobiologie a hygieny) Faculty of Pharmacy Comenius University, Bratislava.

"Use of Stock Solutions and Preparations in Pharmacy."

Prague, Československá Farmacie, Vol 12, No 1, Jan 1963, pp 20-24.

Abstract [English summary modified]: Review and discussion of the data obtained by 85 selected Czechoslovak pharmacies in its effort to a questionnaire sent to 160 of them in all, they use 56 stock solutions (6 to 40 per pharmacy) and there are many needless deviations, some obviously undesirable. Conclusion is that standardization in this area is overdue, recommend that the Czechoslovak Pharmacopoeia III, not being prepared, use standards for stock solutions and triturations. Graph, 3 tables, 19 references: 9 pharmacopeial, 4 Czech, 1 Polish, 2 Soviet, 3 Western.

1/1

VYSKOCIL, Vincenc, inz.

Topographic-isostatic corrections of zones 18-I for the territory
of Czechoslovakia. Geofys sbornik 9:77-82 '61

S/035/62/000/c06/057/064
A001/A101

AUTHORS: Pick, Miloš, Picha, Jan, Vyskočil, Vincenc

TITLE: Topographic gravity corrections for the territory of Czechoslovakia

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 30,
abstract 6G185 ("Geofys. sb.", 1960 (1961), no. 126 - 145, 113 - 157,
Czech; Russian and English summaries)

TEXT: A team of the gravimetric department of the Geophysical Institute at
the Czechoslovakian Academy of Sciences has compiled, as a result of 5 years of
work, a 1:200,000 map for the entire territory of the republic for calculating
gravity corrections. Corrections are introduced, with an accuracy of ±0.5 mgal,
for the relief within the Hayford zone 0 for density 2.67. Separate sheets of
the map are presented for mountainous, hilly and plain regions. Isolines of equal
correction values are drawn through 0.2 mgal. The Earth's curvature is taken into
account. The values obtained from the map should be added with a correction
determined from the appended nomogram for the height of the points and a correc-
tion, calculated for every point, for the effect of relief masses within a radius

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S/035/63/000/006/057/064
A001/A1G1

Topographic gravity corrections...

of 5.24 km. The nomogram yields a part of correction for relief in region Γ (G), statistically determined, varying regularly with the height. The size of this region is chosen so that corrections indicated on the map should not depend on the point heights. A sheet of the 1:200,000 map is taken for the region G . Maximum values on the maps are ~ 5 mgals. Topographic and hypsometric maps, beginning from scale 1:100,000 are used for calculations. Corrections are calculated for special points of the relief indicated on the maps. About 40 points were for each sheet of the 1:100,000 map; in mountains - sometimes 20³ points and more. Calculated values are presented on the maps. The effect of zones M and N is determined for four points on the 1:100,000 sheet, and that of zones O_1 and O_2 - for one point. For each quarter of the sheet indicated a graph of dependence of zones $M - O_2$ on the point height is plotted, and this effect is determined for all points of the section. Graphs of adjacent sections determine the effect of zones $M - O_2$ with a difference of, in most cases, ~ 0.01 mgal. In high-mountainous regions of Slovakia the sections are reduced. If any dependence of gradients of quantities presented on the map on relief heights was noticed, the heights of locality were taken into account while drawing the isolines. For the control, corrections for relief were calculated for 207 points uniformly distri-

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S/035/62/000,006/057/064

A001/A101

Topographic gravity corrections...

buted over the Czechoslovakian territory and heights. The systematic error in determining the influence of zones M - O₂ is estimated by the authors in ±0.1 mgal. They suppose that errors of influence of zones I - L do not depend on the point heights. The mean error of this influence is estimated to be ±0.04 mgal. A table is presented for Bullard's term: a difference of effects on gravity between the spherical layer within the external radius of Hayford O zone and infinite plate of the same thickness. For zones H - O₂ a correction table is given for curvature of spherical layer. A table is also given of effects of zone A and sectors of zones and subzones B - H on corrections for relief (up to 0.001 mgal). It is shown in tables, which accuracy is required for mean heights in these zones and subzones for calculating their effect with an accuracy of 0.1 and 0.2 mgal at mean elevations close to zero and 100 m. It is shown also, what an accuracy is required for determining mean heights in sections of zones I - O₂ for calculating their effect with an accuracy of 0.1, 0.2, 0.3 and 0.4 mgal at mean elevations of locality 500, 1,000, 1,500 and 2,000 m. A map of topographic corrections for zones 18 - 1 of Hayford for Czechoslovakia is presented. A map of topographic-isostatic reductions of these zones has been prepared. For 14 points, uniformly distributed over the land territory, the table gives effects of topographic

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S/035/62/000/004/057/064
A001/A101

Topographic gravity corrections...

masses in zones 18 - 14, 13 - 10, 9 - 8 and 7 - 1. The effect of zones 5 - 8 changes most considerably (up to 3 mgal) and rapidly. Tables are given for normal gravity values according to Gel'mert formula 1901 - 1909 in the range from $47^{\circ}30'$ to $51^{\circ}50'$ in intervals of $10'$ in latitude; the tables contain also reductions in free air for heights from 0 to 1,000 m in intervals of 1 m of height with an accuracy of ± 0.01 mgal and from 1,000 to 2,700 m in intervals of 10 m with an accuracy of ± 0.1 mgal, additional corrections to these reductions for changes in normal vertical gradient in latitude and height, Bouguer reductions with Bullard's term (with the same height intervals and accuracy as in the table of reductions for free air) for conversion from the assumed value of density to its other value. There are 16 references.

M. Yurkina

[Abstracter's note: Complete translation]

Card 4/4

S/169/62/000/007/053/149
D228/D307

AUTHOR: Vyskocil, Vincenc

TITLE: Anomaly field of gravity in gravimetric prospecting

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 28, abstract 7A181 (Geofys. sb., no. 126-145, 1960 (1961), 175-234)

TEXT: Different types of gravity reductions are reviewed and appraised from the viewpoint of using them to investigate the crust's structure. [Abstracter's note: Complete translation.] ✓

Card 1/1

GERT, R., inz., C.Sc.; JIRKU, J., inz., C.Sc.; KALOUSEK, V., inz., C.Sc.;
VYSKOCIL, V., inz., C.Sc.

Statistical survey of overvoltages, the coordination of insulation
between phases, and the electric strength to switching surge.
Bul. EGU no. 5/6:10-22 '62.

VYSKOCIL, Vincenc

Fourth National Conference of Czechoslovak Geophysicists.
Studia geophys 6 no.2:206-207 '62.

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VYSKOCIL, Vincenc

Appraisal of gravity anomalies in density changes with regard to depths.
Geofiz kozl 10 no.1/4:163-168 '62.

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9"

VYSKOCIL, Vincenc

"Applied geophysics; collection of papers of the Institute of Applied Geophysics, 1961". Reviewed by Vincenc Vyskocil.
Studia geophys 7 no.1:91-92 '63.

AUTHOR: Vyskocil, V. (Engineer); Koziskova, M.

TITLE: Maps of isostatic corrections for Cze~~r~~ oslovakia

SOURCE: Československá akademie věd. Geofyzikální ústav. Geofyzikální
žurnál, v. 11, 1963. Prague, 1964, 65-69

TOPIC TAGS: gravimetry, isostatic correction, isostatic map/Czechoslovakia

ABSTRACT: Isostatic corrections for Czechoslovakia have been calculated for the Airy-Heiskanen isostatic system with depths of compensation $T = 20, 30, 40,$ and 60 km . The mean density of the earth's crust taken to be equal to 2.67 gcm^{-3} , and the subcrustal density equal to 3.27 gcm^{-3} . These data have been used to compile maps on which the corrections Δ are given for the Hayford zones A—C₇. As

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1:100,000 map sheets, which makes it possible to complete tables of isostatic corrections on any scale. Contour lines drawn at 5 m. interval provide a general picture of changes in the values of isostatic anomalies. The effect of the sea level is also taken into account throughout Czechoslovakia. Fig. 1 shows the results of the figure.

ASSOCIATION: Geofysikalni ustav Ceskoslovenski akademie ved
Geophysical Institute, Czechoslovak Academy of Sciences

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BY: [Signature] DATE: 11 APR 63

Card 2/2

VYSKOCIL, Vincen

~~Principle of the evaluation of the accuracy of gravimetric charts.~~
Studia geophysica 7 no.2:134-145 '63.

1. Geofizicheskiy institut Chekhoslovatskoy akademii nauk,
Praha 4 - Sporilov, Booni II.

VYSKOT, M.

VYSKOT, M. Evolution of oak seedlings in various soils. p. 67.

No. 1/4, 1953.
SBORNIK. RADA C: SPISY FAKULTY LESNICKE
AGRICULTURE
Brno, Czechoslovakia

So: East European Accessions, Vol. 5, no. 5, 1956

VYSKOT, M.

VYSKOT, M. New textbook on forestry. p. 122.

No. 1/4, 1953
SBORNIK. RADA C: SPISY FA KULTY LESNICKE
AGRICULTURE
Brno, Czechoslovakia

So: East European Accessions, Vol. 5, no. 5, May 1956

VYSKOT, M.

Cultures of oak groves in the river plains of southern
Moravia. p. 236.
SBORNÍK. RADA C: SPISY FAKULTY LESNICKÉ. Brno.
No. 4, 1955

SOURCE: EEAL - LC Vol. 5 No. 10 Oct. 1956

VYSKUT, M.

Problems concerning the clearing of our forests. p.61. Ceskoslovenska akademie zemedelskych ved. SBOHRNIK RADA LESNICTVI. Praha. Vol. 28, no. 1, Feb, 1955

SOURCE: East European Accessions List, (EEAL), Library of Congress,
Vol. 4, No. 12, December 1955

VÝSKOČ, M.

VÝSKOČ, M. Analysis of the crown thinning and low thinning methods in the alluvial oak forest in southern Moravia. p.l. No. 1, 1956. SLOVENSKA KADA C: SPICKY FAKULTY LESNICKY, Brno. Czechoslovakia

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4—April 1957

VYSKOT, M

Analysis of selective cutting of trees according to their height in spruce stands in the Sumava Mountains. p.81. SBORNIK RADA LESNICTVI. Praha. Vol. 29, no. 2, February 1956

SOURCE: East European Accessions List, (EEAL) Library of Congress
Vol. 5, No. 8, August 1956

VYSKOT, M.

VYSKOT, M. Present state and tasks of breeding forest trees in Czechoslovakia. p. 451.

Vol. 29, No. 7/8, Aug. 1956.

SBORNIK. RADA LESNICTVI

AGRICULTURE

Praha, Czechoslovakia

So: East European Accession, Vol. 6, No. 2, Feb. 1957

VYSKOT, M.

Soviet contribution to the science of forestry.

p. 509 (Vestnik) Vol 4 no 10p 1957. Praha, Czechoslovakia.

SO: Monthly Index of East European Accessions (EEAI) LC, Vol 7 no 1 Jan 1958

VYSKOT, M.

Conference on the conversion of coppice forests. p. 79. (SBORNIK RADA LESNICTVI.
Praha) (Vol. 30, No. 2, Feb. 1957)

SO: Monthly List of East European Accession (EEAL) LC, Vol. 6, No. 7, July 1957. Uncl.

VYSKOT. M.

Types of changes and conversions relation to ak breeding. p. 137. (SBORNIK RADA
LESNICTVI. Praha) (Vol. 30, No. 2, Feb. 1957)

SO: Monthly List of East European Accession (EEAL) LC, Vol. 6, No. 7, July 1957. Uncl.

VYSKOT, MIROSLAV

Pesteni dubu. Cultivation of oak. (Vyd. 1)

Praha, Czechoslovakia, Ceskoslovenska akademie zemedelskych ved, 1958, 284 p.

Monthly List of East European Accessions (EEAI), IC, Vol. 8, No. 9, September 1959.

Unclassified.

Country : CZECHOSLOVAKI^K
Category: Forestry. Forest Management.
Abs Jour: RZhDiol., No 11, 1958, No 48764
Author : Vyskot Miroslav
Inst :
Title : Opportunities for the Improvement of the Lowland Forest Plantations (Czechoslovakia) with a Trend Toward Growing Oak.
Orig Pub: Lesn. prace, 1957, 36, No 7, 263-272
Abstract: No abstract.
Card : 1/1

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VYSKOT, MIROSLAV

Pesteni dubu. Cultivation of oak. (Vyd. 1)

Phaha, Czechoslovakia, Ceskoslovenska akademie zemedelskych ved, 1958, 284 p.

*Sample book
for books*

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 9, September 1959.
Unclass

VISCH, V.

"Proceeds of forestry and forestry research in Soviet forest products,"

Prz. 31/6 (Sbornik Radu Mechanickeho Elektrifikace Zemelstvi, Vol. 3, no. 3, 1958, Praha, Czechoslovakia)

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Vyskot, M.

AGRICULTURE

A scientific conference on selective cutting in forests. p. 655.

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VYSKOT, M.; CIHAL, A.

"Contribution to the problems of determining the connection of crowns in forests."

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-RE

VYSKOT, M.

AGRICULTURE

Development of culture in villages as a means of completing the socialization
of agriculture. p. 660

Vol. 5, no. 12, 1958

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VYSKOT, M.

SEORNÍK. RADA LESNICTVÍ

Structure of a natural growth in the Polana Mountains. p. 295

Praha, Czechoslovakia; Vol. 5, No. 3, Mar. 1959

Monthly list of East European Accession Index (EEAI), Library of Congress,
Vol. 8, No. 7, July, 1959

Unclass

VYSKOT, Miroslav, dopisujici clen

Importance of Darwin's doctrine for forestry. *Vestnik CSAZV* 7
no.1/2:39-45 '60. (EEAI 9:7)

1. Vedocky sekretar VI. odboru Ceskoslovenske akademie zemedel-
skych ved. (Evolution) (Forests and forestry)

VYSKOT, Miroslav

April the Month of Forests 1960. *Vestnik CSAZV* 7 no. 5:271-278 '60.
(EEAI 9:10)

1. Dopisujici clen Ceskoslovenske akademie zemedelskych ved
vedecky sekretar VI. odboru Ceskoslovenske akademie zemedelskych
ved. (Czechoslovakia--Forests and forestry)

VYSKOT, Miroslav

April, the Month of Forests 1961. Vestnik CSAZV 8 no. 7:415-417 '61.

1. Dopisujici clen Ceskoslovenske akademie zemedelskych ved; clen
redakcni rady Vestniku Ceskoslovenske akademie zemedelskych ved.

(Czechoslovakia--Forests and forestry)

STEJSKAL, Jan; PLESNIK, Jan; HRUSKA, Ladislav; SVOBODA, Jaroslav; NAJMR,
Stanislav; PREININGER, Miroslav; HAUNER, Frantisek; BENDA, Josef, inz.;
KRAJCOVIC, Vladimir; VLCEK, Kvetoslav; KRBLICH, Jan; CERNY, Ladislav, Dr.;
DVORACEK, Miroslav, inz. dr.; CHYTRA, Frantisek, inz.; FOLTYN, Jiri;
VYSKOT, Miroslav; STAMBERA, Jaroslav, C.Sc. Doc.Inz.; KOSIL, Vladimir;
STUCHLIK, Jaroslav, Inz.; NAKLADAL, Jaroslav, Inz.; RICHTER, Lev, MVDr.

Statements of directors of institutes, and of managers of workplaces
of the Czechoslovak Academy of Agricultural Sciences. Vestnik CSAZV 8
no.8/9:496-531 '61.

1. Dopisujici clen Ceskoslovenske akademie zemedelskych ved (for Stejskal, Plesnik, Hruska, Svoboda, Najmr, Preininger, Hauner, Benda, Krajcovic, Krblich, Dvoracek, Foltyn, Vyskot, Kosil) 2. Clen redakcni rady Vestniku Ceskoslovenske akademie zemedelskych ved (for Plesnik, Preininger, Foltyn, Vyskot) 3. Reditel Vyzkumneho ustavu zivocisne vyroby Ceskoslovenske akademie zemedelskych ved v Uhlnevsi (for Dvoracek) 4. Reditel Ustavu pro vedeckou soustavu hospodareni Ceskoslovenske akademie zemedelskych ved v Praze (for Benda)

(Czechoslovakia—Agriculture)

VYSKOT, Miroslav

Bohuslav Maran; obituary. Les cas 9 no.1:1-2 Ja '63.

1. Clen korespondent Ceskoslovenske akademie ved.

VISKOT, Miroslav

Professor Rudolf Vasa; obituary. Lea cas 9 no.6:n.p. Je '63.

1. Clan korespondent Ceskoslovenske akademie ved.

VISKOT, Miroslav, prof., inz., dr., ScC.

Problems of developing and ensuring the basic research on
forestry in Czechoslovakia. Les cas 9 No.6:581-584 Je '63.

1. Cten korespondent Ceskoalovenska akademie ved; Lesnicka
fakulta, Vysoka skola zemedelska, Brno.

VYSKOT, Miroslav, prof. inz. dr. DrSc.

New information resulting from comparison of the crown thinning and low thinning of English oak (*Quercus robur L.*) stands. Les cas 10 no.6:525-558 Je '64.

1. Corresponding member of the Czechoslovak Academy of Sciences;
Faculty of Forestry, Higher School of Agriculture, Brno.

CZECHOSLOVAKIA

VYSKOT, Miroslav, Prof. dr. ing., DrSc

Corresponding member of the Czechoslovak Academy of Sciences (clen
korespondent CSAV), NS delegate, Rector of the Higher School of
Agriculture (VSZ), Brno

Brno, Veterinarstvi, No 11, November 1966, p 526

"Celebration of the 150th anniversary of agricultural teaching in Brno."

1. DRAGUNOV, S.S.; VYSKOTSKAYA, P.N.
2. USSR (600)
4. Humus
7. Chemical investigations of the humus material in some soils, S.S. Dragunov, P.N. Vyskotskaya, Pochvovedenie no. 4, 1953.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

VYSKOV, V. P.

"Certain Problems in the Evolution of Theriodontia." (p. 271) by Vyskov, V. P.

SO: Progress of Contemporary Biology Vol. 32, No.2, 1951

ROZANOVA, M. D., doktor med. nauk; AGRACHEV, G. I., kand. med. nauk;
VYSOKOVA, T. M., kand. med. nauk; KIDANOVA, Z. S.; MIRONOV, F. F.

Effect of exercise therapy on the functional state of adolescents
with pulmonary tuberculosis. Probl. tub. 40 no. 5:56-63 '62.
(MIRA 15:7)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta tuberkuloza Ministerstva zdravookhraneniya RSFSR (dir. - kandidat meditsinskikh nauk V. F. Chernyshev, zam. dir. po nauchnoy chasti - prof. D. D. Aseyev).

(TUBERCULOSIS) (EXERCISE THERAPY)

VYSKOVIL, J.

BOCK, E.; VYSKOVIL, J.

Reversible hemiparesis in attempted suicide with trichloroethylene.
Lek. listy, Brno 9 no.15-16:353-355 1 Aug. 54.

1. Z neurologické kliniky MU v Brně. Prednosta prof. Dr K. Popěk.
2. Z oddělení pro prevenci, lechni a posuzovani nemoci z povolani.
Prednosta doc. Dr K. Kodlec.

(SUICIDE,

attempted, trichloroethylene pois. causing reversible
hemiparesis)

(PARESIS,

reversible hemiparesis caused by trichloroethylene in
attempted suicide)

(TRICHLOROETHYLENE, poisoning,

attempted suicide, causing reversible hemiparesis)

(POISONING,

trichloroethylene in attempted suicide causing
reversible hemiparesis)

OVINOV, M. I., gornyy inzh.; VYSKREBENETS, I. M., gornyy inzh.

Technology of working with thin, nonsectional shields, Ugol' 38
no. 4:19-20 Ap '63. (MIRA 16:4)

1. Shakhta No. 8 Prokop'yevskogo tresta ugol'noy promyslennosti kombinata Kuzbassugol' Ministerstva ugol'noy promyslennosti SSSR.

(Kuznetsk Basin—Coal mines and mining—Equipment
and supplies)

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CIA-RDP86-00513R001961410019-9

KURSANOV, A., KRYUKOVA, N. and VYSKREBENTSEVA, E.

Moscow, -c1948-.

Mbr., Inst. Biochemistry im. A. N. Bakh, USSR Acad.
Sci., Moscow, -c1948-.

"Inositol as an intermediate product in the conversion
of sugars to polyphenols," Biokhimiya, 13: 6, 1948.

BNL Guide, 2: 4, 1949

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CIA-RDP86-00513R001961410019-9

KURSANOV, A., KRYUKOVA, N., and VYSKREBENTSEVA, E.

Mbr., Inst. Biochemistry im. A. N. Bakh, USSR Acad. Sci., Moscow, -c1948-.

"Inositol as an intermediate product in the conversion of sugars to polyphenols,"
Biokhimiya, 13: 6, 1948.

BNL Guide, 2: 4, 1949

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Participation of *meta*-inositol in carbohydrate-phenol metabolism of the tea leaf. A. L. Kursanov, P. Vyskrutin, S. S. and M. V. Voevod'eva. Doklady Akad. Nauk S.S.R. 68, No. 6(1949); cf. C.I. 43, 307(1950).--Infiltration of the leaf with glucose, fructose, sucrose, glucose 1-phosphate, maltose, rhamnose, glyceraldehyde or glycolaldehyde, showed that in all cases when the infiltrate could be metabolized into *meta*-inositol (1st 4 cases) a considerable increase (1-5 mg./g.) of phloroglucinol was observed; the last 4 substances being unable to be transformed into *meta*-inositol did not give this result. Probably, *meta*-inositol in the leaf can be transformed into substances with phenolic OH groups in *meta*-positions. No increase of pyrogallol-type phenols was observed; the *meta*-inositol level in the adult leaf rises during the day and drops at night with 20-30% variation limits; monosaccharides show but a slight similar change, while sucrose behaves like *meta*-inositol. Stored freshly cut adult leaves (in dark moist chamber) display a continued utilization (decrease of content) of sugars with corresponding rise of tanninlike substances, with *meta*-inositol first rising, then declining as its utilization begins to predominate over synthesis; the phloroglucinol similarly rises in 1st 5 hrs., then declines. G. M. K.

MURCHANOV, A. I., VINITSKII, V. I.

Cotton

Change in the constitution of cotton fiber in relation to the synthesis of cellulose.
Biokhimiia 17 no. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1951, Uncl.

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VYSKREBENTSEVA, Ye.I.

KURSANOV, A.L.; VYSKREBENTSEVA, Ye.I.

Gas exchange in body fluids in *Bombyx mori* during development of
cocoon. Biokhimiia 18 no.3:363-370 My-Je '53. (MLR 6:7)

1. Institut biokhimii im. A.N.Bakha AN SSSR, Moskva.
(NOTES,
silkworm, metab. during cocoon develop.)
(METABOLISM,
in silkworm during cocoon develop.)

VYSKREBENTSEVA, E. I.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Biological Chemistry

Original 7
~~Cellulose synthesis in cotton fibers. M. L. Kursanov and~~
~~E. I. Vyskrebentseva (Bakh Inst. Biochem. Acad. Sci.~~

~~USSR Acad. Sci., Moscow). Biokhimiya 18, 448-51 (1953).~~
The synthesis of cellulose in cotton fibers during the period of wall thickening is limited by the content of sugars. An increase during this period in the content in the pod of such sugars as glucose, sucrose, salicin can hasten the process of cellulose formation. Celllobiose is not utilized by the fibers. Heteroxanthine, by itself incapable of hastening the process of cellulose formation, increases the flow of sugars to the fibers, and thereby indirectly hastens the process of cellulose synthesis.

B. S. Levine

VYSKREBENTSEVA, E. I.

B. T. R.
Vol. 3 No. 5
May 1954
Agriculture

5893⁴ Products of Lightless Fixation of CO_2 , which Are Formed in the Plant by Supplying Carbonic Acid Through the Roots. (Russian.) A. L. Kursanov, N. N. Kirilukova, and E. I. Vyskrebentseva. *Biokhimia*, v. 18, no. 5, Sept.-Oct. 1953, p. 632-637 + 1 plate.

Twelve to 15 day old bean plants were used. Carbonic acid absorbed by the roots quickly changes into carboxylic malic acid. Tables, photograph. 11 ref.

VYSKREBENTSEVA, E.I.

KURSANOV, A.L.; VYSKREBENTSEVA, E.I.

Translocation of photosynthetic products from the leaves and
walls of cotton bolls into the developing fibers. Fiziol.
rast. 1 no.2:156-163 N-D '54. (MIRA 8:10)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii
nauk SSSR, Moscow
(Cotton) (Botany--Physiology)

VYSKREBEN'SEV, E.I.

VYSKREBEN'SEVA, E.I.

Mechanism of the conversion of carbohydrates in the coelomic fluid of silkworms during metamorphosis [with summary in English]. Bio-khimia 22 no.4:657-667 Jl-Ag '57. (MIRA 10:11)

1. Institut fiziologii rasteniy AN SSSR, Moskva.

(CARBOHYDRATES, metabolism,
in Bombyx mori coelomic fluid (Bus))

(MOTHS,
Bombyx mori, carbohydrate metab. in coelomic fluid (Bus))

VYSKREBENTSEVA, E. I. Cand Biol Sci -- (diss) "Processes of tissue respiration
in the cavity fluid of mulberry silkworms (*Bombyx mori*) during the period of
metamorphosis." ^(incl cover, with illustrations) Mos, 1957. 21 pp. (Inst of Biochemistry im A. N. Bakh, Acad Sci USSR),
110 copies (KL, 45-57, 97)

SOBOLEV, A. M.; VYSKREBENTSEVA, E. I.

Identification of organic acid-soluble phosphorus compounds in
plants by paper partition chromatography. Fiziol.rast. 6 no.2:
244-250 Mr-Ap '59. (MIRA 12:5)

1. K.A. Timiryazev Institute of Plant Physiology, U.S.S.R.

Academy of Sciences, Moscow.

(Plants--Chemical analysis)

(Phosphorus metabolism)

(Paper chromatography)

LURSANOV, A.L.; VYSKREBENTSEVA, E.I.

Primary inclusion of phosphates in root metabolism.
Fiziol.rast. 7 n.3:276-286 '60. (MIRA 13:6)

1. K.A. Timiriazev Institute of Plant Physiology, U.S.S.R.
Academy of Sciences, Moscow.
(Plants---Assimilation) (Phosphorus metabolism)

VYSKREBENTSEVA, E.I.

Effect of potassium on the use of phosphate in root metabolism.
Fiziol. rast. 10 no.1:40-47 Ja-F '63. (MIRA 16:5)

1. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy
of Sciences, Moscow.
(Roots (Botany)) (Plants, Effect of potassium on)
(Phosphorus metabolism)

VYSKREBENTSEVA, E.I.

Oxidative and nitrogen metabolism in pumpkin roots under the conditions of potassium deficiency. Fiziol. rast. 10 no.3:307-312
(MIRA 16;6)
My-Je '63.

I. K.A.Timiriazev Institute of Plant Physiology U.S.S.R. Academy
of Sciences, Moscow.
(Plants—Metabolism) (Plants, Effect of potassium on)

VYSHKVERTSEVA, L.T., kand.ekonom.nauk

Economic efficiency of mechanizing river regulating operations.
Trudy LIIVT. Vop. ekon. i org. vod. transp. no.2:86-93 '59.
(MIRA 13:11)

(Rivers--Regulation)
(Hydraulic engineering--Equipment and supplies)

BASHEVINA, N.V.; LEONT'YEV, O.K.; SIMONOV, Yu.G.; VYSKREBENTSEVA, V.S.;
ZARUTSKAYA, I.P.

Classification of land forms and legend for large-scale
geomorphological maps. Sov.geol. 1 no.11:54-75 N '58.
(MIRA 12:4)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Physical geography--Maps)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9

BASHENINA, N.V.; LEONT'YEV, O.K.; SIMONOV, Yu.G.; VYSKREBENTSEVA, V.S.
VOSKRESENSKIY, S.S.; PIOTROVSKIY, M.V.

Genetic classification of the relief and the principles of making
large-scale geomorphological maps. Izv. AN SSSR. Ser. geog. no.1:115-120
(MIRA 11:2)
Ja-F '58.

1. Geograficheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta
im. M.V. Lomonosova. (Physical geography) (Maps)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9"

BASHENINA, Nina Viktorovna; LEONT'YEV, Oleg Konstantinovich;
PIOTROVSKIY, Mikhail Vladimirovich; SIMONOV, Yury
Gavrilovich; VYSKREBENTSEVA, V.S.; ZAJUTSKAYA, I.P.;
Prinimali uchastiye ZORIN, L.V.; ORLOV, I.V.; ZVONKOVA,
T.V.; FEDOROVICH, B.A.; SHATALOV, Ye.T., retsenzent;
GLAZOVSKAYA, M.A., retsenzent; ARISTARKHOVA, L.B., re-
tsenzent; YERMAKOV, M.S., tekhn. red.

[Methodological guide to geomorphological mapping and
the carrying out of geomorphological surveys at scales of
1:50 000 - 1:25 000 (with legend)] Metodicheskoe ruko-
vodstvo po geomorfologicheskemu kartirovaniyu i proizvod-
stvu geomorfologicheskoi s"emki v masshtabe 1:50 000 -
1:25 000 (s legendoi). Pod red.N.V.Basheninoi. Moskva,
Izd-vo Mosk.univ., 1962. 202 p. [Legend; supplements
VIII-[XI]] Legenda geomorfologicheskoi karty Sovetskogo
Soiuza masshtaba 1:50 000 - 1:25 000; prilozhenie VIII-
[XI] 1960. 25 p. (Geomorphology—Maps)

Vyskretsov, G.D.

BARKAN, D.D.; VOSKRESENSKIY, P.F.; VYSKRETSOV, G.D.; SLAVSKIY, V.M.;
TAGIYEV, E.I.

Effect of vibrations on footage drilled by a single bit.
Neft. khoz. 35 no.10:17-20 O '57. (MIRA 11:1)
(Boring machinery--Vibration)

VYSKREBTSOV, G.D.

AID P - 3275

Subject : USSR/Mining

Card 1/1 Pub. 78 - 5/24

Authors : Tagiyev, E. I., D. D. Barkan, V. M. Slavskiy, F. F. Voskresenskiy,
G. D. Vyskrebtsov

Title : Influence of vibrations on the speed of rotary drilling of hard
formations by a three-cutter bit

Periodical : Neft. khoz., v. 33, #9, 20-28, S 1955

Abstract : At the All-Union Scientific Research Institute of Oil Drilling
(VNIIburneft'), tests have been made to determine the influence
of forced vertical vibrations on the drilling speed of bits. An
empirical formula has been devised in which the increase in speed
of rotary drilling of hard formations by three-cutter bits due
to forced vertical vibrations is calculated as a function of the
parameters of the vibrator, the kind of drilling operations, the
diameter of the bit, and specific properties of the drilled for-
mations. Diagram, charts.

Institution : None

Submitted : No date

BOBROVNIKOV, G.N.; VYSHENBERTSOV, V.G.; RODIN, Ye.I.

Rate of pressure drop in displacement flowmeters with oval gear
wheels. Friborostroenie no.12:26-28 D '64.

(MIRA 18:3)

17(7)

SOV/177-58-5-21/30

AUTHOR:

Vyskubenko, S.I., Major of the Medical Corps

TITLE:

The Treatment of Acute Purulent Inflammatory Diseases
of the Carpus With an Intraosteal Injection of Peni-
cillin and Novocaine (Lecheniye ostrykh gnoynikh
vospalitel'nykh zbolevaniy kisti vnutrikostnym
vvedeniyem penitsillina i novokaina)

PERIODICAL:

Voyenno-meditsinskiy zhurnal, 1958, Nr 5, pp 80-81
(USSR)

ABSTRACT:

The method of intraosteal injection of penicillin
and novocain presented in this article is based on
its specific etiotropic effect on microbial stimuli
(staphylo- and streptococcus) and on the pronounced
general effect of antibiotics, which spread out via
the venous and arterial vessels of all tissues of
the extremity after being injected with a solution
of novocain into the substantia spongiosa ossium.
Besides this, a weak solution of novocain affects
the interreceptors in the medulla ossium and the inter-

Card 1/2

SOV/177-58-5-21/50

The Treatment of Acute Purulent Inflammatory Diseases of the Carpus
With an Intraosteal Injection of Penicillin and Novocaine

ceptors of the vessels of the injured extremity and thus stops stimulating impulses from entering the inflammatory focus in the cortex of the myelencephalon and improves the trophicity of the tissues in the area of the inflammatory focus. The method had good results in all cases of acute purulent diseases of the fingers and the carpus. According to the author's opinion, panaritiae and purulent injuries of the carpus as well as phlegmons in initial forms can successfully be treated with an intraosteal injection of novocain and penicillin without surgery. Purulent panaritiae have to be opened, but the prophylactic application of the above mentioned method considerably simplifies the operation and accelerates the healing of the wound. This simple method can be employed at dispensaries and dressing-stations.

Card 2/2

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9

GEYRC, S.B., dotsant; VYAZITSKLY, P.G.; YERYKALOVA, O.E.; VYSKUNENKO, S.I.

Direct transfusion of the blood in some hematologic diseases and in
the syndrome of acute fibrinolysis. Vcen.-med. zhur. no.8 27-29 '64.

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9"

L 3835-66 ARG/EWT(d)/FBD/FBO/EWT(m)/EWP(w)/EPF(c)/FA/EWP(c)/EMP(r)/T-2/EWP(s)/
LWP(h)/FCS(k)/EWA(h)/ETC(m) W/H/EM/HE
AM5025577

BOOK EXPLOITATION

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355.9 100
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Aleshkov, M. N. (Candidate of Technical Sciences, Engineer-Colonel); Vyskubov,⁴⁴⁵³
B. R. (Engineer-Colonel); Zhukov, I. I. (Professor, Doctor of Technical
Sciences, General Major of the I.T.S.); Katkhanov, M. N. (Doctor of Technical
Sciences, Docent Engineer-Colonel); Kukushkin, D. D. (Candidate of Technical
Sciences, Colonel); Markov, O. P. (Docent, Candidate of Technical Sciences,
Engineer-Lieutenant Colonel); Savin, N. V. (Engineer-Colonel); Smirnov, A. D.⁴⁴⁵⁵
(Engineer-Colonel); Fomin, Yu. G. (Candidate of Technical Sciences, Engineer-
Colonel)

Physical principles of rocket weapons. (⁴⁴⁵⁵Fizicheskiye osnovy raketnogo oruzhiya)
Moscow, Voenizdat M-va obor. SSSR, 1965. 463 p. illus., biblio. 12,000
copies printed.

TOPIC TAGS: rocket, rocket flight, weapon, projected ammunition, jet engine,
rocket propellant, combustion chamber, engine fuel system, rocket guidance,
missile ground equipment, rocket engine test, jet propulsion

PURPOSE AND COVERAGE: The book presents the principles of the theory of flight,
the physical principles of jet propulsion, describes rocket engines and fuels,
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3

and control and guidance systems of various types. It also describes the working principle of rockets of various types and their basic equipment, and the designs of ground equipment and the tests of rocket complexes. It also contains a classification of rocket equipment. The book is intended for officers connected with the manufacture of rocket equipment, and for students of military educational institutions. The contents of the book is based on materials of overt Soviet and foreign publications.

TABLE OF CONTENTS (abridged):

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Ch. IX. Ground equipment of various purpose rocket complexes -- 385
Ch. X. Rocket and rocket complex tests -- 407
Ch. XI. Rocket combat units -- 427

Bibliography -- 459

SUB CODE: GM, WA

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OTHER: 042

Reh
Card 3/3

OSORGIN, A.V.; LAVROVA, I.V.; PSHENITSYNA, I.F.; VYSKUBOVA, M.M.; SEMENOV,
M.N., red.; ROROKINA, Z.P., tekhn. red.

[Problems in the comprehensive development of transportation in the
virgin and fallow land region of northern Kazakhstan] Voprosy kon-
pleksnogo razvitiia transporta v raionakh osvoeniiia tselinykh i
zalezhnykh zemel' Severnogo Kazakhstana, Alma-Ata Izd-vo akad. nauk
Kazakhskoi SSR, 1957. 107 p. (Akademiiia nauk Kazakhskoi SSR, Alma-
Ata Institut ekonomiki. Trudy, vol. 1). (MIRA 11:3)
(Kazakhstan--Transportation)

Vyskubova, M.

LAVROVA, I.V., kand. ekon. nauk; VYSKUBOVA, M., mladshiy nauchnyy sotrudnik.

Economic relations and transport communications of Kazakhstan,
Vest. AN Kazakh. SSR 13 no.10+41-57 O '57. (MIRA 10+12)
(Kazakhstan--Economic conditions)
(Transportation)

VYSKUEVA, M.M.

Problems in the formation of the economy and the transport and economic communications of the Virgin Territory. Vest. AN Kazakh. SSR 21 no.6:
29-37 Je '65. (MIRA 18;7)

VYSKVARDO, G. T.

"Tests of Disinfectants for Control of Cotton Black Arm," Itozi Nauchno-Issledovatel'skikh Rabot Vsesoiuznogo Instituta Zashchity Rastenii za 1936 Goda, part 2, 1937, pp. 278-279. 423.92 L541

So: Sira - Si - 90 - 53, 15 Dec. 1953

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9

VYSKVARKO, G. G.

26536 Bolezni subtropiceskikh ploshchadok kul'tur v azerbaydzhanskoy SSR. Trudy
azerbaydzh. Nauch-Issled. In-ta mnogolet. naucheniya. T. I. 1949, c. 4253. -
Bibliogr: 10 nazv.

SO: LETOPIS' NO. 35, 1949

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9"

KANYGINA, N.Ye.; VYSKVAERKO, G.G., kand. sel'skokhoz. nauk, rektor, direktor
raboty

Fungi of the Polyporaceae family on the Oriental Beech (*Fagus orientalis* Lipsky) of the Belokany-Yakataly zone of the Azerbaijan S.S.R. Izv. AN Azerb. SSR. Ser. biol. no.4:37-44. '64.
(MIRA 17:12)

1. Rabota provedena v Nauchno-issledovatel'skom institutu
lascnogo khozyaystva Azerbaydzhanskoy SSR.

VYSKVARKO, G.G.; POLIVTSEV, F.P.

Problems in grape protection. Zashch. rast. ot vred. i bol. 6 no.
12:50-51 D '61. (MIRA 16:5)

VYSKARKO, G. T., and UL'YANISHCHEV, V. I.

"New Disinfectants for Controlling Black Arm of Cotton," Itozi Nauchno-Issledovatel'skikh Rabot Vsesoiuznogo Instituta Zashchity Rastenii za 1936 Goda, part 2, 1937, pp. 276-278. L23.92 L541

So: Sira - Si - 90 - 53, 15 Dec. 1953

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CIA-RDP86-00513R001961410019-9

VYSKVARKO, G. T.

UL'YANISHCHEV, V. I. *[Co-author]* See: VYSKVARKO, G. T. "New Disinfectants for Controlling Black Arm of Cotton," 1937.

SO: SIRA, SI 90-53, 15 December 1953

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001961410019-9"

SHUL'GIN, I.A.; KUPERMAN, F.M.; VYSLOUKH, V.A.; SHCHERBINA, I.P.

Chlorophyl content as a physiological index of heterosis in corn.
Fiziol. rast. 8 no.6:754-756 '61. (MIRA 16:7)

1. Laboratory of the Biology of Development of Moscow University
and K.A. Timiriazev Institute of Plant Physiology, U.S.S.R.
Academy of Sciences, Moscow.
(Heterosis) (Corn (Maize)) (Chlorophyll)

Z/037/60/000/005/028/056
E192/E382

AUTHOR: Vysloužil, A.

TITLE: Impregnated Cathode

PERIODICAL: Československý časopis pro fysiku, 1960,
No. 5, p. 430

TEXT: The technology of the impregnated cathode is briefly reviewed. It is shown that this modern cathode can serve as a powerful electron source having a long life and that it is immune to high voltage gradients and gas impurities. Due to these merits of the cathode it is possible to employ it in special high-power microwave tubes. The basic chemical phenomena occurring in the cathode and its emission mechanism are explained. Particular attention is paid to the manufacture technology of the cathode in order to obtain optimum emission characteristics. The technological processes involved in the preparation of the cathode material, composition and preparation of the emissive material and the impregnation technique are extremely important in securing the required properties. The Card 1/2

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Z/037/60/000/005/028/056
E192/E382

Impregnated Cathode

critical stages of the impregnating process are analysed.
The conditions of evacuation and activation of the
electron tubes with the impregnated cathodes are given.

ASSOCIATION: Výzkumný ústav pro vakuovou elektrotechniku,
Praha
(Research Institute for Vacuum Electro-
technology, Prague)

Card 2/2

26.253/
26.2312 9,3/20 (1003, 1140, 1331)

22077
Z/039/61/022/006/002/005
D225/D305

AUTHOR: Vysloužli, Alois

TITLE: Impregnated cathode

PERIODICAL: Slaboproudový obzor, v. 22, no. 6, 1961, 338-342

TEXT: The article lists requirements imposed on modern power cathodes and describes the development, design, properties and functions of the "impregnated" cathode which is a powerful electron source with long lifetime and high resistance against steep voltage gradients and residual gases. The development of microwave technique imposes increased requirements on the emissive properties of power cathodes. Since conventional cathode materials (porous Ni coats, thoriated tungsten, boride) do not meet these requirements, efforts are being made to find new cathode materials. The first achievement was the L-type dispenser cathode which, however, has the disadvantage that it is rather complicated and hard to produce. A similar, so-called "impregnated" cathode with very remarkable properties was developed by R. Levi (Ref 3, Improved

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X

Impregnated cathode

"Impregnated Cathode", Journal of Applied Physics 26, 1955, no 5, 639. Basically, it is a barium cathode with a porous tungsten coating impregnated with molten Bi-Ba oxide. The impregnated cathode is considered the most powerful, long living electron source. Such a cathode, tested at the VUVET-Výzkumný ústav pro vakuovou elektrotechniku (Research Institute for Vacuum Electro-Engineering) in Prague with a load of 10.6 A/cm^2 at 1.120°C , supplied with an anode voltage of 145 V, had a lifetime of 5.000 hrs without emission loss. The rather low operating temperature of 900°C at a continuous load of 1 A/cm^2 increases the lifetime of an impregnated cathode to several ten-thousand hrs. To achieve the best results, vacuum conditions must be optimal. However, the cathode is relatively poison-proof, operates dependably even under certain deteriorated vacuum conditions (current densities are lower), and withstands several times the contact with air of atmospheric pressure, when activated. The emissive surface of the cathode is very

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Impregnated cathode

hard, compact and smooth and resists very steep voltage gradients (in the order of several tens of kV/cm), and bombardment with positive ions. The resulting secondary emission contributes considerably to magnetron functions. The ratio of primary to secondary emission (factor χ) of $Ba_3Al_2O_6$ - impregnated cathodes is much larger than that of dispenser cathodes, which is attributed to the emission from pore ends. The rather steep initial decline of secondary emission can be balanced after several minutes by increasing the cathode temperature to 1,200°C. Comparative tests were made with L-dispenser and impregnated cathodes (emitting material 6BaO.2Al₂O₃.CaO), both employing tungsten bodies with porosities of 25 and 45%. The emission factor χ for L cathode was found to be 1.6 for a tungsten porosity of 25% and 1.45 for a tungsten porosity of 45% and dropped slightly after 30 min. of electron bombardment. The factor χ of the impregnated cathode with a tungsten porosity of 45% was 2.8 and dropped to 2.25 after

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Impregnated cathode

15 min. of electron bombardment. The factor of secondary emission was approximated 4.2 and dropped to 3.0. An impregnated cathode with a tungsten porosity of 25% had an initial factor χ of 2.15 and a final factor χ of 1.7 ; the pertinent emitter material had an initial χ of 3.8 and a final χ of 2.0. The chemical reaction taking place in the porous tungsten layer can be formulated as follows: $Ba_3Al_2O_6 = 2BaO + BaAl_2O_4$, $BaAl_2O_4 = BaO + Al_2O_3$; $6BaO + W = Ba_3WO_6 + 3Ba$. The liberated Ba migrates on the tungsten surface and forms an emitting monomolecular layer. The very strong binding of the Ba to the W, caused by the oxygen interlayer, brakes the Ba emission which, otherwise, would be too fast and hard to exploit as source of thermionic emission, especially at the operating temperatures (1,000 to 1,200°C) of an impregnated cathode. The reaction-product Ba_3WO_6 , originating during cathode operation, forms an intermediate layer between the W and the $Ba_3Al_2O_6$ and is

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D225/D305**Impregnated cathode**

a measure for the lifetime of the cathode. Since the first impregnated cathodes did not reach the above-described emissive properties, they were improved by Levi, who added CaO to the emitting substance, thus quadrupling the emission. The function of the CaO is not quite illuminated, but it is supposed that Ca_2BaW_6 results as reaction product which does not attenuate the emission. The impregnation, originally performed in vacuum, is not performed in a hydrogen atmosphere. Due to lower Ba evaporation, the improved cathode has 8-times the lifetime of the original impregnated cathode. The production process for impregnated cathodes, as developed by the VÚET, is then described. The base of the cathode is a pellet or tube-shaped body of porous tungsten, impregnated with the emitting substance. The most effective emitting substance is composed of 7 g BaCO_3 , 1.2 g Al_2O_3 (in form of corundum with a grain size of 1 μm) and 1.0 g CaO. A 20% excess of BaCO_3 was used to

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Impregnated cathode

compensate for partial evaporation during impregnation. The mixture was ground till all were smaller than $1\text{ }\mu\text{m}$, and then suspended in 15 ml acetone. The pellet or tube-shaped cathode bodies are pressed from $2\text{ }\mu\text{m}$ W powder with a hydrostatic pressure of 2 tons/cm 2 and then sintered for 10 min. by hf heating to 1,600 - 1,800°C in hydrogen atmosphere (which causes shrinkage of 8%). For better machining, the bodies are impregnated with Cu, which can be removed after machining either by nitric acid and subsequent boiling in distilled water, or by high-temperature vaporization in H atmosphere. Pure tungsten powder is used for its chemical affinity to BaO. Admixtures of Mo are not advantageous for highly-effective cathodes. The effect of other admixtures (Ta, Nb, Zr, Hf, etc) is being investigated by the VUVET. The porosity of the tungsten body (which should be 30 - 40%) is checked by comparing the weights of the same sample, first in dry state, then soaked with distilled water. The completed cathode bodies, after Cu removal and hf

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Impregnated cathode

annealing for 5 min. at 1,650°C, are impregnated by applying the emissive suspension either with a brush or by dipping and subsequent rapid hf heating to 1,750 - 1,800°C. As soon as the coating is absorbed by the W body, the heating is discontinued and the operation repeated twice, once at 2,000°C, the second time at 2,200°C. After impregnation, reminders of the emitter are scraped off and the cathode surface is ground with abrasive carbide paper. After conventional evacuation of gases by pumping, the impregnated cathode is gradually heated up to 1,200°C which effects further degassing. Then it is gradually loaded with an anode current so that the emission tendency increases. The emission current is controlled by the amount of residual gases released by electron bombardment and is limited by the maximum anode loss. When a stable emission is reached (after 20 - 30 min.) the anode current is reduced to the operating value and the cathode temperature is reduced by 100 - 200°C. At this load, the activation is continued until complete stabilization of the emission. In

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Impregnated cathode

regular evacuation conditions, the activation is completed within 1/2 - 2 hrs. Only tubes for pulse operation need further activation at impulse conditions. In conclusion the author states that impregnated cathodes with their remarkable properties can be widely applied, especially in microwave technique. The cathode produces great emission densities, has a long lifetime and resists steep voltage gradients. Due to its metal body, it also resists mechanical damage and can be precisely adjusted. It is successfully used in magnetrons, klystrons, carcinotrons, hv rectifiers, betatrons, and Hg-discharge tubes. There are 4 figures, 1 Soviet-bloc and 5 non-Soviet-bloc references. The four most recent references to English-language publications read as follows: Coppola, P.P.-Hughes, R.C.; A New Pressed Dispenser Cathode. Proc. IRE (1956), no. 3 p. 359; Brodie, I. - Jenkins, R.O.: The nature of the emitting surface of barium dispenser cathodes. British Journal of Applied Phys. 8 (1957), no. 1, p. 27; Brodie, I. - Jenkins, R.O.: Secondary electron emission from barium dispenser cathodes. British Journal of Applied Physics 8 (1957), no. 5, p. 202; Rittner, E.S. - Rutledge, W.C. - Ahlert, R.H.: On the Mechanism of Card 8/9